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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,304	06/02/2005	Osamu Okuda	2005-0896A	1676

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EXAMINER

NGUYEN, DONGHAI D

ART UNIT	PAPER NUMBER
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3729

MAIL DATE	DELIVERY MODE
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07/25/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

14

Office Action Summary	Application No. 10/537,304	Applicant(s) OKUDA ET AL.	
	Examiner Donghai D. Nguyen	Art Unit 3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25-47 is/are pending in the application.
- 4a) Of the above claim(s) 25-34 and 43-47 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 35-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>6/2/05; 6/4/07</u> . | 6) <input checked="" type="checkbox"/> Other: <u>attachment JP 09-236,995</u> |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group II, claims 35-42, in the reply filed on June 04, 2007 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Thus claims 25-34 and 43-47 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: --PARTS MOUNTING METHOD--.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claims 35-42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

“the component recognition camera” (claim 35, lines 9-10); “the image-pickup” (claim 35, line 12); “the board recognition camera” (claim 35, line 15); “the board mark” (claim 35, line 18) lack antecedent basis.

“NC” claim 40, line 13) should be: --Numerical Control (NC)--, appropriate changed is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

6. Claims 35-38 are rejected under 35 U.S.C. 102(b) as being anticipate by JP 8-236,995 to Morita (machine translation is attached herein).

Regarding claim 35, Morita discloses a component mounting method of carrying out by a component mounting apparatus with an X-Y robot (see Fig. 1) having a component placing head (1) provided with a component holding member (2) for holding an electronic component (10) to mount the electronic component held by the component holding member in a component placing position of a circuit board (15) by moving the component placing head in an X-axis direction and a Y-axis direction that are perpendicular to each other, the method comprising: image-picking up a camera reference mark (18), which is provided upright on a chassis individually of the X-Y robot and the component recognition camera (19), arranged adjacent to the component recognition camera for picking up an image of the electronic component (10) held by the component holding member (2), arranged in a place where the image-pickup of the electronic component by means of the component recognition camera is not disturbed and provided at the

same height position as a height position of the circuit board (15) when the board recognition camera (4) picks up an image of the board mark (inherent because board mark must be provided for board recognition camera to capture) and an image-pickup height position of the component recognition camera by means of the board recognition camera that is provided for the component placing head and image-picks up the board mark on the circuit board (see Fig. 1); obtaining relative positional relations among the component holding member (2), the board recognition camera (4), and the component recognition camera (19) from center position information of the component holding member obtained by image-picking up the component holding member by means of the component recognition camera (19) and image-pickup information obtained by image-picking up an image-pickup mark (18) provided at the image-pickup height position of the component recognition camera by means of the component recognition camera (19) and the board recognition camera (see Pars. 18 and 19); ignoring an amount of displacement of a positional relation between the component holding member and the board recognition camera among the relative positional relations with regard to an amount of displacement attributed to heat (Note that Morita does not mention or calculate the displacement of a positional relation between the component holding member and the board recognition camera); using the displacement information of the camera reference mark obtained by image-picking up the camera reference mark by means of the board recognition camera as information of a relative displacement between the board recognition camera and the component recognition camera (see Par. 20 and 24); correcting the component placing position based on only the displacement information (see Par. 25); and moving the electronic component to the placing position of the circuit board to place the electronic component (see Par. 21).

Regarding claim 36, Morita discloses when productive mounting operation is interrupted, the image-picking-up of the camera reference mark is carried out immediately before restarting the productive mounting operation (since Morita requires initialization process before mounting component to board, see Par. 18).

Regarding claim 37, Mo wherein, when a difference obtained by comparing the position information of the camera reference mark obtained through the image-pickup with preset reference position information is not smaller than a set value, the operation of the component mounting apparatus is stopped (see Fig. 2, step 9).

Regarding claim 38, Morita discloses a positional relation between the component holding member and the board recognition camera, a positional relation between the component holding member and the component recognition camera, and a positional relation between the board recognition camera and the component recognition camera are preliminarily measured, and the measurement values are treated as preconditions for the correction of the component placing position (see Par. 18).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morita.

Morita does not disclose a plurality of the component recognition cameras are provided and a plurality of camera reference marks are provided and if the difference obtained by comparing the position information of the camera reference mark obtained by picking up an image of one of the plurality of the camera reference marks with the preset reference position information is smaller than a set value, then the image-pickup of the other camera reference marks is omitted. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a plurality of the component recognition cameras and a plurality of camera reference marks, since it has been held that mere duplication of essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. V. Bemis Co.*, 193 USPQ 8.

Allowable Subject Matter

9. Claims 40-42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Prior art references cited for their teachings of mounting components on the circuit board.

Art Unit: 3729

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donghai D. Nguyen whose telephone number is (571)-272-4566. The examiner can normally be reached on Monday-Friday (9:00-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter D. Vo can be reached on (571)-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DN

July 23, 2007

A handwritten signature in black ink, appearing to read 'Donghai D. Nguyen', is written over a horizontal line.

Patent Examiner: Donghai D. Nguyen